

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 31 December 2003 (31.12.2003)

PCT

(10) International Publication Number WO 2004/000798 A1

(51) International Patent Classification⁷: A01N 41/06, A61K 31/277

C07C 311/13,

(21) International Application Number:

PCT/EP2003/006483

(22) International Filing Date: 18 June 2003 (18.06.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0214117.4

19 June 2002 (19.06.2002) GB

- (71) Applicant (for all designated States except AT, US): NO-VARTIS AG [CH/CH]; Lichtstrasse 35, CH-4002 Basle (CH).
- (71) Applicant (for AT only): NOVARTIS PHARMA GMBH [AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): STEIGER, Arthur [CH/CH]; Bruggweg 14, CH-4144 Arlesheim (CH). ZAM-BACH, Werner [CH/CH]; Chlederenweg 35, CH-4112

Bättwil (CH). **BOUVIER**, Jacques [CH/CH]; Rue des Parcs 2, CH-2000 Neuchâtel (CH). **DUCRAY**, **Pierre** [FR/FR]; 8, rue des alliés, F-68128 Village-Neuf (FR).

- (74) Agent: GRUBB, Philip; Novartis AG, Corporate Intellectual Property, CH-4002 Basel (CH).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SE, SG, SK, TJ, TM, TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW.
- (84) Designated States (regional): Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: N-SULPHONYLAMINOACETONITRILES HAVING PESTICIDAL PROPERTIES

(57) Abstract: The invention relates to compounds of the general formula (I) and, if appropriate, enantiomers thereof. The active compounds have advantageous pesticidal properties. They are suitable, in particular, for the control of parasites in warm-blooded animals.

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C07C311/13 A01N41/06

A61K31/277

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) $IPC \ 7 \ CO7C \ A01N$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data

Category °	Citation of document, with indication, where appropriate, of the	ne relevant passages	Relevant to claim No.
	S. Cooling IIII IIII and Capping IIII		
X	A.R. KATRIZKY ET AL: SYNTHETIC COMMUNICATIONS, vol. 27, no. 5, 1997, pages 90 XP001091308 page 909, table compounds 4f-h	7-922,	1–15
X	D.F. EWING ET AL: J. CHEM. SOC no. 4, 1966, pages 390-392, XP page 391, related systems, ent	008021822	1–15
		-/	
	·		
X Fur	ther documents are listed in the continuation of box C.	Patent family members are listed	d in annex.
	ther documents are listed in the continuation of box C.	"T" later document published after the int	ernational filing date
° Special c	ategories of cited documents :	"T" later document published after the int or priority date and not in conflict wilt cited to understand the principle or the	ernational filing date h the application but
Special c A document consister earlier	nategories of cited documents: nent defining the general state of the art which is not idered to be of particular relevance document but published on or after the international	"T" later document published after the int or priority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the	ernational filing date h the application but neory underlying the claimed invention
Special c "A" docum consi "E" earlier filing "L" docum	ategories of cited documents: nent defining the general state of the art which is not idered to be of particular relevance document but published on or after the international date nent which may throw doubts on priority claim(s) or	"T" later document published after the int or priority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the discourage.	ernational filing date in the application but neory underlying the claimed invention to be considered to ocument is taken alone
Special c A docurr consi E earlier filing 'L' docum which citatic	nategories of cited documents: nent defining the general state of the art which is not idered to be of particular relevance document but published on or after the international date nent which may throw doubts on priority claim(s) or his cited to establish the publication date of another on or other special reason (as specified)	"T" later document published after the int or priority date and not in conflict with cited to understand the principle or the invention of particular relevance; the cannot be considered novel or cannot involve an inventive step when the document of particular relevance; the cannot be considered to involve an inventive step when the document of particular relevance; the	ernational filing date In the application but neory underlying the claimed invention to be considered to ocument is taken alone claimed invention nuentive step when the
Special c A docum consi E earlier filing 'L' docum which citatie 'O' docum 'O' docum	ategories of cited documents: nent defining the general state of the art which is not idered to be of particular relevance document but published on or after the international date nent which may throw doubts on priority claim(s) or in its cited to establish the publication date of another	"T" later document published after the into or priority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the document of particular relevance; the cannot be considered to involve an indocument is combined with one or ments, such combination being obvi	ernational filing date in the application but neory underlying the claimed invention to be considered to ocument is taken alone claimed invention nventive step when the nore other such docu—
Special c 'A' docurr consi 'E' earlier filing 'L' docum which citatie 'O' docum other	ategories of cited documents: nent defining the general state of the art which is not idered to be of particular relevance document but published on or after the international date nent which may throw doubts on priority claim(s) or his cited to establish the publication date of another on or other special reason (as specified) nent referring to an oral disclosure, use, exhibition or	"T" later document published after the int or priority date and not in conflict with cited to understand the principle or the invention of particular relevance; the cannot be considered novel or cannot involve an inventive step when the discument of particular relevance; the cannot be considered to involve an inventive and the cannot be considered to involve and document is combined with one or in the cannot be considered to involve and the cannot be	ernational filing date h the application but neory underlying the claimed invention be considered to ocument is taken alone claimed invention nventive step when the nore other such docu- pous to a person skilled
Special c 'A' docum consi 'E' earlier filling 'L' docum which citatic 'O' docum other 'P' docum later	nategories of cited documents: nent defining the general state of the art which is not idered to be of particular relevance document but published on or after the international date nent which may throw doubts on priority claim(s) or in is cited to establish the publication date of another on or other special reason (as specified) nent referring to an oral disclosure, use, exhibition or remeans	"T" later document published after the into or priority date and not in conflict with cited to understand the principle or the invention to the cannot be considered novel or cannot le considered novel or cannot le considered novel or cannot le considered to involve an inventive step when the decument of particular relevance; the cannot be considered to involve an inventive and involve and inventive combined with one or π ments, such combination being obvidin the art.	ernational filing date in the application but neory underlying the claimed invention to be considered to ocument is taken alone claimed invention niventive step when the nore other such docu- ous to a person skilled
Special c "A" docum consi "E" earlier filling "L" docum which citati "O" docum other "P" docum later	rategories of cited documents: ment defining the general state of the art which is not idered to be of particular relevance redocument but published on or after the international date ment which may throw doubts on priority claim(s) or his cited to establish the publication date of another on or other special reason (as specified) ment referring to an oral disclosure, use, exhibition or means ment published prior to the international filing date but than the priority date claimed	"T" later document published after the int or priority date and not in conflict with cited to understand the principle or the invention of particular relevance; the cannot be considered novel or cannot involve an inventive step when the document of particular relevance; the cannot be considered to involve an ideoument is combined with one or ments, such combination being obvinin the art. '&' document member of the same paten	ernational filing date in the application but neory underlying the claimed invention to be considered to ocument is taken alone claimed invention niventive step when the nore other such docu— ous to a person skilled
Special c "A" docum consi "E" earlier filing "L" docum which citati "O" docum other "P" docum later Date of the	nategories of cited documents: ment defining the general state of the art which is not idered to be of particular relevance document but published on or after the international date ent which may throw doubts on priority claim(s) or his cited to establish the publication date of another on or other special reason (as specified) ment referring to an oral disclosure, use, exhibition or means ment published prior to the international filling date but than the priority date claimed e actual completion of the international search	"T" later document published after the into or priority date and not in conflict with cited to understand the principle or the invention. "X" document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the document of particular relevance; the cannot be considered to involve an involve and document is combined with one or ments, such combination being obvious the art. "&" document member of the same patent Date of mailing of the international set.	ernational filing date in the application but neory underlying the claimed invention to be considered to ocument is taken alone claimed invention niventive step when the nore other such docu— ous to a person skilled
Special c "A" docum consi "E" earlier filling "L" docum which citati "O" docum other "P" docum later Date of the	rategories of cited documents: ment defining the general state of the art which is not idered to be of particular relevance of document but published on or after the international date ent which may throw doubts on priority claim(s) or his cited to establish the publication date of another on or other special reason (as specified) ment referring to an oral disclosure, use, exhibition or means ment published prior to the international filing date but than the priority date claimed eractual completion of the international search	"T" later document published after the interpretation or priority date and not in conflict with cited to understand the principle or the invention of the cannot be considered novel or cannot involve an inventive step when the discount of particular relevance; the cannot be considered to involve an idecument is combined with one or ments, such combination being obvious in the art. "&" document member of the same patern Date of mailing of the international set.	ernational filing date in the application but neory underlying the claimed invention to be considered to ocument is taken alone claimed invention niventive step when the nore other such docu- ous to a person skilled

		PCT/EP 03/06483
	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category •	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; retrieved from STN Database accession no. 1994:270114 XP002254543 abstract; RN 152312-41-9, 152312-41-9 & JP 05 148233 A (FUJISAWA PHARMACEUTICAL CO LTD) 15 June 1993 (1993-06-15)	1-15
X	DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; retrieved from STN Database accession no. 1993:495527 XP002254544 abstract -& CHEMICAL ABSTRACTS, vol. 119, no. 9, 30 August 1993 (1993-08-30) Columbus, Ohio, US; abstract no. 95527, XP002254542 abstract & JP 04 321671 A (MITSUBISHI PETROCHEMICAL CO LTD) 11 November 1992 (1992-11-11)	1,2,4,7-12
X	EP 0 176 327 A (CHEVRON RESEARCH CO) 2 April 1986 (1986-04-02) examples 9, 12	1,2,4,5, 7-12,26
A	DE 28 54 932 A (FISONS LTD) 5 July 1979 (1979-07-05) page 41, line 28 - page 45, line 5; page 73	1,27-29
A	US 5 952 386 A (S. MATSUO ET AL) 14 September 1999 (1999-09-14) columns 1-2; column 17, lines 20-62; column 73, line 36 - column 75, line 51; column 79, example 5; column 86, compound 110	1,26-29
	·	

INTERNATIONAL SEARCH REPORT

Interioral Application No
PCT/EP 03/06483

	nt document search report		Publication date		Patent family member(s)	Publication date
JP 0	5148233	A	15-06-1993	NONE		
EP 1	76327	Α	02-04-1986	US BR	4652556 A 8504583 A	24-03-1987 15-07-1986
				CA	1256116 A1	20-06-1989
				DE	3566401 D1	29-12-1988
				EP	0176327 A1	02-04-1986
				ES	8605478 A1	01-09-1986
				JP 	61087658 A	06-05-1986
DE 2	854932	Α	05-07-1979	AT	368358 B	11-10-1982
				AT	898478 A	15-02-1982
				AU	526848 B2	03-02-1983
				AU BR	4262678 A 7808420 A	28-06-1979
				CA	7808420 A 1098912 A1	07-08-1979
				DD	143199 A5	07-04-1981 13-08-1980
				DE	2854932 A1	05-07-1979
				DK	570178 A	25-06-1979
				ES	476119 A1	16-11-1979
				FR	2412525 A1	20-07-1979
				ΙE	47637 B1	16-05-1984
				IL	56251 A	31-10-1983
				IT	1160399 B	11-03-1987
				JP	54106449 A	21-08-1979
				NL NZ	7812255 A	26-06-1979
				NZ Pl	189219 A 212112 A1	11-02-1981 01-12-1980
				US	4349378 A	14-09-1982
				ΥÜ	304978 A1	28-02-1983
				BE	872919 A1	20-06-1979
				CA	1098531 A1	31-03-1981
				GB	2012170 A ,	
				US	4309559 A	05-01-1982
				ZA 	7807184 A	27-08-1980
US 5	952386	Α	14-09-1999	AU	5287896 A	07-11-1996
				DE	69610204 D1	12-10-2000
				DE	69610204 T2	03-05-2001
	•			EG Ep	20723 A	29-12-1999
				IL	0824514 A1 117943 A	25-02-1998 06-12-2000
				ΙĹ	11/943 A 130542 A	06-12-2000
				JP	9249610 A	22-09-1997
				WO	9633160 A1	24-10-1996
				ÜS	6028100 A	22-02-2000
				US	6214835 B1	10-04-2001
				ZA	9602968 A	22-10-1996